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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,423	02/12/2004	Howard R. Petty	30275/39376	4331

4743 7590 09/11/2007

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EXAMINER	
ROY, BAISAKHI	
ART UNIT	**PAPER NUMBER**
3737	

MAIL DATE	DELIVERY MODE
09/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/777,423	PETTY ET AL.	
	Examiner	Art Unit	
	Baisakhi Roy	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 6/5/07, with respect to the rejection(s) of claim(s) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14 and 16-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shapiro et al. (4569354) in view of Grinvald et al. (6478424).

Shapiro et al. disclose a device and method for measuring the fluorescence of flavoprotein in the retina. Shapiro et al. teach the use of an excitation light source such as a mercury lamp or laser to provide an excitation light at a wavelength corresponding to excitation of flavoprotein autofluorescence, an image capture device adapted to record a single image representative of a retinal fluorescence signal generated in response to the excitation light, including a filter that reduces background wavelengths from the retina fluorescence signal, and an image intensifier adapted to increase the retinal fluorescence signal strength (col. 4 lines 39-56). The filter prevents detection of

wavelengths beyond those associated with flavoprotein auto-fluorescence and limit detection to the most meaningful wavelengths (col. 4 lines 5-17, col. 5 lines 13-33).

Shapiro et al. do not explicitly teach an image capture device adapted to record a single image representative of a retinal fluorescence signal and further intensifying the single image to increase the signal strength of the retinal autofluorescence and analyzing the single image to determine a contrast. In the same field of endeavor Grinvald et al. disclose a non-invasive system and method of measuring the metabolic activity of a retina. Grinvald et al. disclose a system for imaging reflectance changes, intrinsic or extrinsic fluorescence changes of a retina due to normal retinal function, processing stored images to reveal a differential optically detectable functional response signal corresponding to the retina's function (col. 6 line 51 – col. 7 line 38). Grinvald et al. teach filtering the illumination light to be of any desired wavelength or combination of wavelengths or of a wavelength suitable for exciting the voltage-sensitive fluorescent probe being used. In the fluorescence mode, Grinvald et al. teach the use of post-retinal filtering to pass light at the emission wavelength to the imaging device while reflected light at the excitation wavelength is removed (col. 4 lines 15-38). Therefore Grinvald et al. teach the use of differential image analysis to reveal differences between the two sets of images, where one is a response image and one is a blank image (col. 7 lines 3-38). In the differential image, the unchanging background is removed to maximize the excitation of flavoprotein auto-fluorescence and minimize the excitation of non-flavoprotein auto-fluorescence (col. 7 lines 39-60). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Grinvald et al. to modify

the teaching by Shapiro et al. for the purpose of increasing the intensity of the functional aspects of the image and minimizing the non-functional changes demonstrated by varying intensities of dark to light regions to clarify the image to extract clinically relevant parameters (col. 7 lines 52-60, col. 8 lines 15-18).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baisakhi Roy whose telephone number is 571-272-7139. The examiner can normally be reached on M-F (7:30 a.m. - 4p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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